UNITED STATES PATENT AND TRADEMARK OFFICE

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ART UNIT	PAPER NUMBER
2166	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/603,037	PETCULESCU ET AL.
	Examiner	Art Unit	
	Joon H. Hwang	2166	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _05 June 2007_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1,3-6,8-11,13-16,18-24,26,27 and 29-48_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1,3-6,8-11,13-16,18-24,26,27 and 29-48_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   The applicants amended claims 1, 3, 11, 13, 20, 21, 27, 33, 40, 42, and 45 in the

amendment filed on 6/5/07.

The claims 1, 3-6, 8-11, 13-16, 18-24, 26-27, and 29-48 are pending.

Response to Arguments

2.   Applicant's arguments with respect to claims 1, 11, 20, 27, and 40 have been

considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., defining *additional* relationships, the relationships are not subject to restrictions

placed on the *original* database, and *broadening or changing* the relationships between

the attributes) are not recited in the rejected claim(s). Although the claims are

interpreted in light of the specification, limitations from the specification are not read into

the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

A. The applicants argue that *Colossi does not teach or suggest the assigning*

step and the defining step.

The examiner respectfully traverses.

Colossi discloses attributes of a dimension are abstractions of relational

database columns (3rd and 8th paragraph on page 725). Colossi discloses attribute

relationship defines relationship between two attributes of two tables (9th paragraph on

page 725). These teach columns of two tables are assigned as attributes of a

dimension, wherein the columns of two tables are the columns of the database having

restrictions therein, wherein the restrictions are that the columns are bounded to their

respective tables. Thus, when an attribute relationship is defined between two

attributes from two tables, the attribute relationship is not subject to the restrictions.

Thus, Colossi teaches the assigning step and the defining step. Therefore, the

applicants' argument is not persuasive.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed
> publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.   Claims 1, 3-6, 8-11, 13-16, 18-24, 26-27, and 29-48 are rejected under 35

U.S.C. 102(a) as being anticipated by Colossi et al. ("Relational extensions for OLAP,

IBM Systems Journal, Vol. 41, No. 4, 2002, pages 714-731, Accepted for publication

August 19, 2002).

With respect to claim 1, Colossi teaches defining a dimension comprising a

plurality of attributes (i.e., a dimension in OLAP, "OLAP basics" on page 715, fig. 2 on

page 717, and fig. 6 on page 724; a dimension object, "Multidimensional layer" on

pages 724-725). Colossi teaches assigning each attribute to a respective column of the

database having restrictions therein (i.e., attribute and join of dimension, fig. 6 on page

724 and "Base/relational layer" on page 725; the restrictions are that the columns are

bounded to their respective tables). Colossi teaches defining relationships between the

attributes (i.e., dimension hierarchy, "OLAP basics" on page 715, fig. 2 on page 717, fig.

6 on page 724, "Multidimensional layer" on pages 724-725, and "Base/relational layer"

on page 725), wherein said relationships are not subject to said restrictions placed on

the database (i.e., multiple hierarchies of dimension, "OLAP basics" on page 715, fig. 2

on page 717, fig. 6 on page 724, "Multidimensional layer" on pages 724-725,

"Base/relational layer" on page 725, and fig. 7 on page 725). Colossi teaches

accessing the database via the dimension (i.e., a relational database is accessed via

dimension, "OLAP sales cube example" on pages 725-726, fig. 8 on page 726, fig. 6 on

page 724, and fig. 5 on page 722).

With respect to claim 3, Colossi teaches defining at least one hierarchy

comprising a sequence of the attributes, at least one of said attributes included in said

defining relationship step (i.e., dimension hierarchy, "OLAP basics" on page 715, fig. 2

on page 717, fig. 6 on page 724, "Multidimensional layer" on pages 724-725,

"Base/relational layer" on page 725, and fig. 7 on page 725).

With respect to claim 4, Colossi teaches each hierarchy defines a drill down path

for accessing the database (i.e., Drill-down, fig. 3 on page 718 and left column on page

717).

With respect to claim 5, Colossi teaches a hierarchy contains one attribute (i.e.,

dimension hierarchy, "OLAP basics" on page 715, fig. 2 on page 717, fig. 6 on page 724,

"Multidimensional layer" on pages 724-725, "Base/relational layer" on page 725, and fig.

7 on page 725).

With respect to claim 6, Colossi teaches the act of defining the at least one hierarchy is independent of the database (i.e., multiple hierarchies of dimension, "OLAP basics" on page 715, fig. 2 on page 717, fig. 6 on page 724, "Multidimensional layer" on pages 724-725, "Base/relational layer" on page 725, and fig. 7 on page 725).

With respect to claim 8, Colossi teaches the database is a relational database (i.e., a relational database in fig. 6 on page 724).

With respect to claim 9, Colossi teaches the dimension is utilized with an on line analysis processing (OLAP) system ("OLAP basics" on pages 715-719).

With respect to claim 10, Colossi teaches an application programming interface (API) comprising means for performing the method of claim 1 (fig. 1 on page 716 and upper right column on page 715).

Claims 11, 13-16, and 18-19 are essentially the same as claims 1, 3-6, and 8-9 except that it sets forth the claimed invention as a computer-readable medium rather than a method and rejected for the same reasons as applied hereinabove.

Claims 20-24 and 26 are essentially the same as claims 1, 3-6 and 8-9 except that it sets forth the claimed invention as a system rather than a method, wherein for claim 20, Colossi further teaches a processor coupled to a storage device, the storage device comprising a database (fig. 1 on page 716, fig. 3 on page 718, fig. 10 on page 727, and left column on page 717), therefore, claims 20-24 and 26 are rejected for the same reasons as applied hereinabove.

Claims 27 and 29-31 are essentially the same as claims 1, 3, 6, and 9-10 except

that it sets forth the claimed invention as a system rather than a method and rejected for

the same reasons as applied hereinabove.

The limitations of claims 32-39 are rejected in the analysis of claims 1, 3-6, and

8-9, and these claims are rejected on that basis, wherein for claim 37, Colossi further

teaches the logical structure is defined independent of restrictions associated with the

database (i.e., multiple hierarchies of dimension, "OLAP basics" on page 715, fig. 2 on

page 717, fig. 6 on page 724, "Multidimensional layer" on pages 724-725,

"Base/relational layer" on page 725, and fig. 7 on page 725).

With respect to claim 40, the limitations of claim 40 are similar to the limitations of

claim 1 above. Colossi further teaches receiving a data retrieval request including a

dimension ("Execute Web service" on pages 728-730). Therefore, the limitations of

claim 40 are rejected in the analysis of claim 1 above, and the claim is rejected on that

basis.

With respect to claim 41, Colossi teaches providing the retrieved data in

response to the data retrieval request (fig. 9 on page 727 and fig. 3 on page 718).

With respect to claim 42, Colossi teaches the data retrieval request further

including at least hierarchy comprising a sequence of the attributes, where at least one

of said attributes in included in the said at least one defined relationship (i.e., a drill

up/down operation request, fig. 3 on page 718 and left column on page 717; dimension

hierarchy, "OLAP basics" on page 715, fig. 2 on page 717, fig. 6 on page 724,

"Multidimensional layer" on pages 724-725, "Base/relational layer" on page 725, and fig.

7 on page 725).

With respect to claim 43, Colossi teaches each hierarchy defines a drill down

path for accessing the database (i.e., Drill-down, fig. 3 on page 718 and left column on

page 717).

With respect to claim 44, Colossi teaches a hierarchy contains one attribute (i.e.,

dimension hierarchy, "OLAP basics" on page 715, fig. 2 on page 717, fig. 6 on page 724,

"Multidimensional layer" on pages 724-725, "Base/relational layer" on page 725, and fig.

7 on page 725).

With respect to claim 45, Colossi teaches each sequence is defined independent

of said restrictions associated with the database (i.e., multiple hierarchies of dimension,

"OLAP basics" on page 715, fig. 2 on page 717, fig. 6 on page 724, "Multidimensional

layer" on pages 724-725, "Base/relational layer" on page 725, and fig. 7 on page 725).

With respect to claim 46, Colossi teaches the relationships between the attributes

are defined independent of said restrictions associated with the database (i.e., multiple

hierarchies of dimension, "OLAP basics" on page 715, fig. 2 on page 717, fig. 6 on page

724, "Multidimensional layer" on pages 724-725, "Base/relational layer" on page 725,

and fig. 7 on page 725).

With respect to claim 47, Colossi teaches the database is a relational database

(i.e., a relational database in fig. 6 on page 724).

With respect to claim 48, Colossi teaches the database is capable of being

utilized with an on line analysis processing (OLAP) system ("OLAP basics" on pages

715-719).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 3-6, 8-11, 13-16, 18-24, 26-27, and 29-48 are rejected under 35 U.S.C.

103(a) as being unpatentable over Tuzhilin et al. (U.S. Publication No. 2004/0103092)

in view of Reddy et al. (U.S. Patent No. 6,658,413).

With respect to claim 1, Tuzhilin teaches defining a dimension comprising a

plurality of attributes (i.e., DEFINE DIMENSION command, sections [0093]-[0096] on

page 9). Tuzhilin teaches assigning each attribute to a respective column of the

database (i.e., columns of a relational table correspond to attributes of a dimension,

section [0123] on page 11). Tuzhilin teaches defining relationships between the

attributes (i.e., a dimension hierarchy, section [0079] on page 7), wherein said

relationships are not subject to restrictions placed on the database (i.e., a hierarchy or

profiles of a dimension, section [0016] on page 2 and sections [0066]-[0069] on pages

6-7). Tuzhilin teaches accessing the database via the dimension (section [0124] on

page 11 and sections [0104]-[0110] on pages 9-10). Tuzhilin does not explicitly

disclose a database having restrictions therein. However, Reddy teaches a database

having restrictions therein (i.e., access permissions, lines 38-45 in col. 21) in order to

provide access security to the database. Therefore, based on Tuzhilin in view of Reddy,

it would have been obvious to one having ordinary skill in the art at the time the

invention was made to utilize the teaching of Reddy to the system of Tuzhilin in order to

provide access security to the database.

With respect to claim 3, Tuzhilin teaches defining at least one hierarchy

comprising a sequence of the attributes, at least one of said attributes included in said

defining relationship step (i.e., a dimension hierarchy, section [0079] on page 7).

With respect to claim 4, Tuzhilin teaches each hierarchy defines a drill down path

for accessing the database (i.e., a dimension hierarchy, section [0079] on page 7,

sections [0123]-[0124] on page 11, and fig. 6).

With respect to claim 5, Tuzhilin teaches a hierarchy contains one attribute (i.e.,

a dimension hierarchy, section [0079] on page 7).

With respect to claim 6, Tuzhilin teaches the act of defining the at least one

hierarchy is independent of the database (i.e., a hierarchy or profiles of a dimension,

section [0016] on page 2 and sections [0066]-[0069] on pages 6-7).

With respect to claim 8, Tuzhilin teaches the database is a relational database

(i.e., a relational database, section [0124] on page 11).

With respect to claim 9, Tuzhilin teaches the dimension is utilized with an on line

analysis processing (OLAP) system (sections [0124] and [0127] on page 11).

With respect to claim 10, Tuzhilin teaches an application programming interface (API) comprising means for performing the method of claim 1 (section [0103] on page 9).

Claims 11, 13-16, and 18-19 are essentially the same as claims 1, 3-6, and 8-9 except that it sets forth the claimed invention as a computer-readable medium rather than a method and rejected for the same reasons as applied hereinabove.

Claims 20-24 and 26 are essentially the same as claims 1, 3-6 and 8-9 except that it sets forth the claimed invention as a system rather than a method, wherein for claim 20, Tuzhilin further teaches a processor coupled to a storage device, the storage device comprising a database (i.e., a relational database, section [0124] on page 11 and fig. 2), therefore, claims 20-24 and 26 are rejected for the same reasons as applied hereinabove.

Claims 27 and 29-31 are essentially the same as claims 1, 3, 6, and 9-10 except that it sets forth the claimed invention as a system rather than a method and rejected for the same reasons as applied hereinabove.

The limitations of claims 32-39 are rejected in the analysis of claims 1, 3-6, and 8-9, and these claims are rejected on that basis, wherein for claim 37, Tuzhilin further teaches the logical structure is defined independent of said restrictions associated with the database (i.e., a hierarchy or profiles of a dimension, section [0016] on page 2 and sections [0066]-[0069] on pages 6-7).

With respect to claim 40, the limitations of claim 40 are similar to the limitations of claim 1 above. Tuzhilin further teaches receiving a data retrieval request including a

dimension (sections [0104]-[0110] on pages 9-10). Therefore, the limitations of claim 40 are rejected in the analysis of claim 1 above, and the claim is rejected on that basis.

With respect to claim 41, Tuzhilin teaches providing the retrieved data in response to the data retrieval request (section [0124] on page 11).

With respect to claim 42, Tuzhilin teaches the data retrieval request further including at least hierarchy comprising a sequence of the attributes, where at least one of said attributes is included in the said at least one defined relationship (sections [0104]-[0110] on pages 9-10).

With respect to claim 43, Tuzhilin teaches each hierarchy defines a drill down path for accessing the database (i.e., a dimension hierarchy, section [0079] on page 7, sections [0123]-[0124] on page 11, and fig. 6).

With respect to claim 44, Tuzhilin teaches a hierarchy contains one attribute (i.e., a dimension hierarchy, section [0079] on page 7).

With respect to claim 45, Tuzhilin teaches each sequence is defined independent of said restrictions associated with the database (i.e., a hierarchy or profiles of a dimension, section [0016] on page 2 and sections [0066]-[0069] on pages 6-7).

With respect to claim 46, Tuzhilin teaches the relationships between the attributes are defined independent of said restrictions associated with the database (i.e., a hierarchy or profiles of a dimension, section [0016] on page 2 and sections [0066]-[0069] on pages 6-7).

With respect to claim 47, Tuzhilin teaches the database is a relational database (i.e., a relational database, section [0124] on page 11).

With respect to claim 48, Tuzhilin teaches the database is capable of being

utilized with an on line analysis processing (OLAP) system (sections [0124] and [0127]

on page 11).

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37
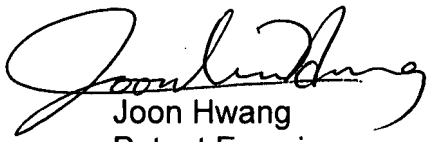
CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joon H. Hwang whose telephone number is 571-272-

4036. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Joon Hwang
Patent Examiner
Technology Center 2100

8/17/07